



## Application for Licence Amendment

### Part V Division 3 of the *Environmental Protection Act 1986*

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<b>Licence Number</b>	L8454/2010/2
<b>Licence Holder</b>	Chichester Metals Pty Ltd
<b>ACN</b>	109 264 262
<b>File Number</b>	2010/003105-4
<b>Premises</b>	<p>Christmas Creek Mine Site</p> <p>Tenements - E46/610, E46/612, M46/320, M46/321, M46/322, M46/323, M46/324, M46/325, M46/326, M46/327, M46/328, M46/329, M46/330, M46/331, M46/332, M46/333, M46/334, M46/335, M46/336, M46/337, M46/338, M46/339, M46/340, M46/341, M46/342, M46/343, M46/344, M46/345, M46/346, M46/347, M46/348, M46/349, M46/350, M46/351, M46/352, M46/353, M46/354, M46/355, M46/403, M46/406, M46/412, M46/413, M46/414, M46/415, M46/416, M46/417, M46/418, M46/419, M46/420, M46/421, M46/422, M46/423, M46/424, G46/7, L46/49, L46/56, L46/58, L46/86, L46/87, L46/106, L46/111, E46/566 and L46/66</p> <p>MULGA DOWNS WA 6751</p> <p>As defined by the Premises maps attached to the Revised Licence</p>
<b>Date of Report</b>	14/06/2024
<b>Decision</b>	Revised licence granted

**SENIOR MANAGER, RESOURCE INDUSTRIES  
INDUSTRY REGULATION (STATE-WIDE DELIVERY)**  
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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## 1. Decision summary

Licence L8454/2010/2 is held by Chichester Metals Pty Ltd (licence holder) for the Christmas Creek Mine Site (the Premises), located at Mulga Downs.

This amendment report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the construction and operation of the Premises. As a result of this assessment, revised Licence L8454/2010/2 has been granted.

The revised Licence issued because of this amendment supersedes the existing Licence previously granted in relation to the Premises. The revised Licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this amendment report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

### 2.2 Application summary

On 22 March 2023, the licence holder applied to amend Licence L8454/2010/2 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- construction and operation of the Christmas Creek Green Iron Pilot Plant (CCGIPP) (Category 44: metal melting or refining);
- construction and operation of the Christmas Creek Concrete Batching Plant (CCCBP) (Category 77: concrete batching or cement products manufacturing);
- alignment of the monitoring frequency of inspections for the tailings storage facility (TSF) embankment freeboard, from the existing daily when the facility is in operation to the proposed fortnightly TSF inspections whilst the facility is not operational;
- Ruby turkey's nest that is approved to contain 'brackish' water to be changed to include the storage of 'saline or brackish' water within the containment infrastructure; and
- additional condition to the licence to provide flexibility during the design, construction, and installation of the proposed Categories 44 and 77 infrastructure.

This amendment is limited only to the inclusion of new Category 44 and 77 activities to the existing Licence. No changes to the aspects of the existing Licence relating to Categories 5, 6, 31, 52, 54, 57, 64, and 73 have been requested by the licence holder. Table 1 below outlines the proposed changes to the existing Licence.

**Table 1: Proposed production capacity changes**

Category	Current production capacity	Proposed production capacity	Description of proposed amendment
5	77,000,000 tonnes per annual period (tpa)	-	No change

Category	Current production capacity	Proposed production capacity	Description of proposed amendment
6	43,000,000 tpa (injected)	-	No change
31	195 tpa	-	No change
44	-	5,000 tpa (output of 2,500 tonnes of pig iron per annual period)	New category
52	63.6 Mwe per annual period	-	No change
54	1,040 cubic metres per day (m <sup>3</sup> /day)	-	No change
57	2,000 tyres	-	No change
64	10,000 tpa	-	No change
73	15,183.1 m <sup>3</sup> in aggregate	-	No change
77	-	100,000 tpa	New category

## 2.3 Overview of Premises operations

### Green Iron Pilot Plant

The licence holder proposes to produce and export green iron by using green technologies and renewable energy. The CCGIPP is a small-scale trial production of green iron that will be located within the Premises on existing cleared and disturbed land (Figure 1). It is also located immediately south of the existing approved hydrogen refuelling plant.

The CCGIPP will include, but limited to, ore preparation, hydrogen reduction, electric smelting furnace for pig iron and slag production and product packaging that will shape and size pig iron into a suitable form for sale. The maximum design capacity for the CCGIPP will be up to 5,000 tpa of iron ore and an output of up to 2,500 tpa. The CCGIPP will be operated intermittently on a batched basis. It is proposed that hydrogen and source energy from the existing Premises power supply will be used and from future renewable energy network, to make an iron product with near-zero emissions.

### Concrete Batching Plant

The licence holder proposes to construct and operate a concrete batching plant to supply concrete within the and outside the Premises. The CCCBP will be located on existing disturbed and cleared land (Figure 2). The production capacity will be up to 100,000 tpa of concrete to service the Premises, Pilbara Transmission Projects, Pilbara Energy Company projects and other decarbonisation projects as required within and outside the Premises.

The CCCBP design and installation includes a mobile trailer mounted batch plant with a 70-tonne capacity vertical cement silo, 3.5 tonne capacity cement weigh hopper, 50 tonne horizontal cement silo, and 8.0 m<sup>3</sup> capacity twin aggregate weigh bins. The CCCBP will weight and mix the components of the concrete batch to manufacture homogenous concrete at a production capacity of 70 m<sup>3</sup> per hour. Additional associated infrastructure will include, but not limited to administration office, laboratory, workshops, wedge pits, and fuel storage.

The process undertaken will include cement supplied from an offsite location by road tanker vessels and a prime mover. Sand and aggregate material for concrete production will be transported from a local quarry within the Pilbara region to the Premises. A front-end loader (FEL) will move the material from the designated storage area within the Premises to the aggregate storage bins / bays at the CCCBP area. A total of four bins / bays / stockpiles will each store approximately 150 tonnes of material. FEL will load material from the bins / bays / stockpiles into the plant aggregate weigh bins. The CCCBP will have a full computer control batching system that will be able to record batching quantities for all materials. Dust from stockpiles will be controlled by sprinklers run daily that will also control temperature and moisture, with moistures recorded daily.

Construction and operation of the CCCBP will be in accordance with the requirements, as outlined in the *Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998*.

### Minor amendments

The licence holder has requested the following minor amendments:

- 1) Approve Ruby turkey's nest that permits storage of 'brackish' water to allow the storage of 'saline or brackish' water within the containment infrastructure under condition 3, Table 2 of the licence.
- 2) Align the monitoring frequency of inspections for the TSF embankment freeboard with existing other Fortescue Ltd operational licences. Amend daily TSF inspections whilst operational to include fortnightly TSF inspections whilst not in operation under condition 4, Table 3 of the licence.
- 3) Inclusion of a condition that provides the proposed prescribed premises activities with flexibility during the design, construction, and installation of the proposed infrastructure. The licence holder has proposed the following condition for inclusion:
  - *"The licence holder must not depart from the design and construction requirements specified in Table XX except:*
    - (a) *where such departure is minor in nature and does not materially change or affect the infrastructure; or*
    - (b) *where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity, or the environment; and*
    - (c) *all other conditions in this licence are still satisfied."*

The department does not support the inclusion of item 3. The following comments are provided:

- the inclusion of a condition to provide flexibility during the design, construction, and installation of proposed infrastructure is not supported. The department notes this condition was previously in the licence and was removed in the amendment dated 28 September 2023. The department no longer includes conditions of this nature (based on legal advice) as operators have used this condition to make significant changes to authorised works.



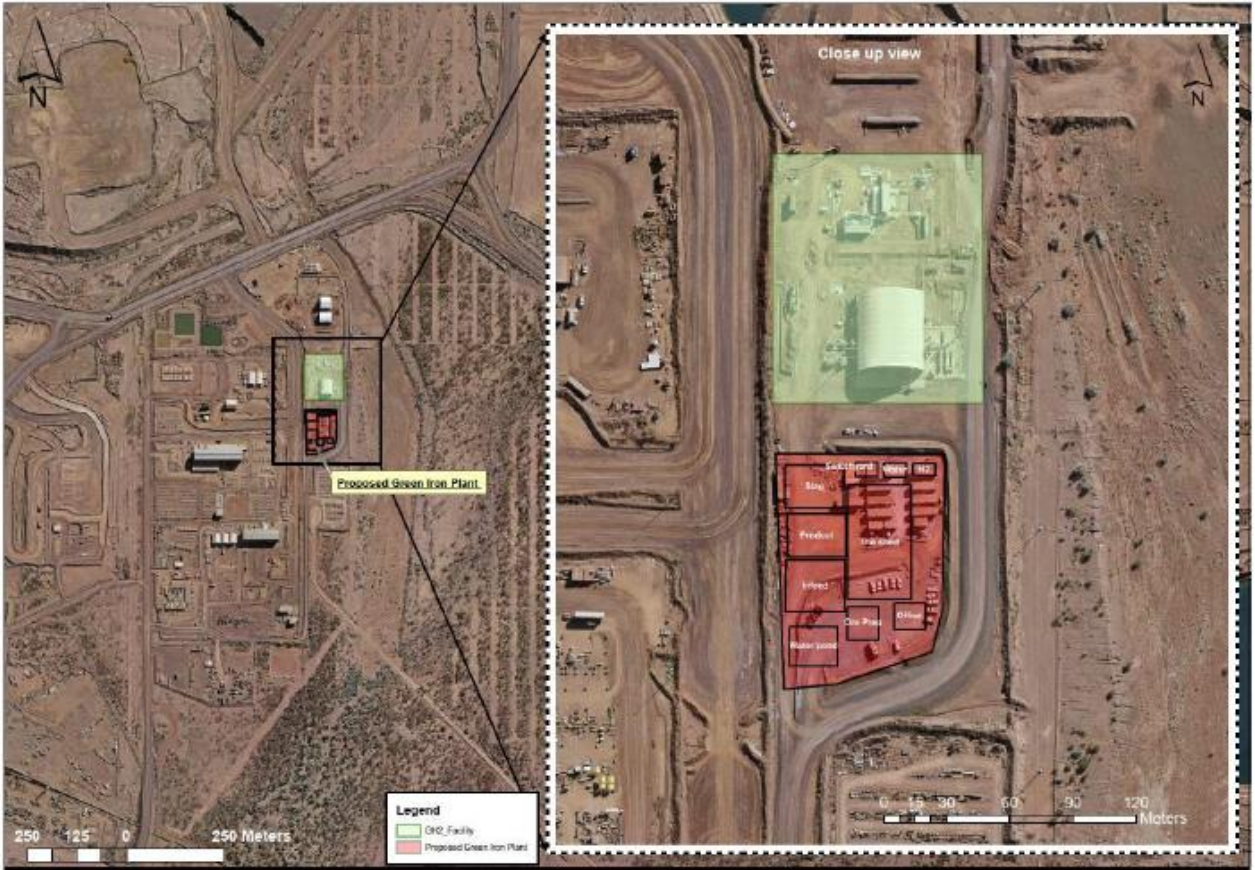


Figure 1: Indicative location and overview of the proposed CCGIPP



Figure 2: Indicative location of the proposed CCCBP

## 2.4 Part IV of the EP Act

The Christmas Creek Iron Ore Mine Expansion was approved on 08 August 2016 by Ministerial Statement (MS) 1033, which authorised the expansion of the existing mining footprint, permanent waste landforms, tailings disposal, conveyors, roads, drainage and other associated mine infrastructure.

The Environmental Protection Authority (EPA) identified in its Report No: 1567 the following factors as the key environmental factors during its assessment of the proposal and set the conditions relevant to this assessment:

- *Hydrological Processes / Inland Waters Environmental Quality* – potential impacts from drawdown and mounding of groundwater, potential changes in surface flow regimes and potential changes in water quality.
- *Flora and Vegetation* – direct impacts from the clearing of flora and vegetation and indirect impacts on vegetation from groundwater drawdown and mounding, and changes to surface water flows.
- *Subterranean Fauna* – potential impacts from loss of habitat due to dewatering and excavation of mine pits.
- *Rehabilitation and Decommissioning (Integrating Factor)* – potential long-term impacts to vegetation and fauna habitat if rehabilitation is unsuccessful, and potential long-term impacts to aquifer water quality once dewatering and injection ceases.
- *Offsets (Integrating Factor)* – to counterbalance the significant residual impacts to native in ‘Good to Excellent’ condition, including habitat for conservation significant fauna species; and vegetation in the proposed Fortescue Marsh Conservation Reserve and Fortescue Marsh management zone 1a.

Based on the risk assessment undertaken in section 3.1, Table 3 of this document, for the prescribed premises activities impacts to the above environmental factors is low to medium risk. The licence holder advised that potential impacts to conservation significant flora species and fauna species, and vegetation are regulated under MS 1033 including the implementation of several environmental management plans to further mitigate against potential impacts.

## 3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway, and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020a).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

### 3.1 Source-pathways and receptors

#### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this amendment report are detailed in Table 2 below. Table 2 also details the proposed control measures the licence holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Licence holder controls

Sources / activities	Emissions	Potential pathways	Proposed controls
<b>Construction</b>			
<b>Category 44</b>			
Construction of the CCGIPP including the GI water pond	Dust	Air / windborne pathway	<ul style="list-style-type: none"> <li>existing conditions 9 and 10 under the licence apply;</li> <li>use of water sprays. Foggers, and dust collection systems;</li> <li>use of water trucks;</li> <li>application of a dust suppression agent(s) in high traffic areas; and</li> <li>implement and monitor dust in accordance with the <i>Dust Management Plant (IO-PL-EN-0001)</i>.</li> </ul>
	Contaminated stormwater	Direct discharge to land	<ul style="list-style-type: none"> <li>existing condition 9 and 10 under the licence apply;</li> <li>use of hardstands, bunding and / or windrows to divert and segregate stormwater within and externally to the CCGIPP;</li> <li>stormwater sumps and drains must be constructed where required within the footprint of the CCGIPP;</li> <li>contain and appropriately manage contaminated stormwater;</li> <li>protect natural drainage lines from construction impacts where possible so that water quality is minimally impacted and</li> <li>keep clean and potentially contaminated stormwater separate.</li> </ul>
<b>Category 77</b>			
Installation and construction of the CCCBP	Dust	Air / windborne pathway	<ul style="list-style-type: none"> <li>existing conditions 9 and 10 under the licence apply;</li> <li>construction in accordance with the requirements outlined in the <i>Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998</i>;</li> <li>aggregate storage bins / bays must be fitted with dedicated water spray system;</li> </ul>

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Sources / activities	Emissions	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> <li>• use of water trucks;</li> <li>• application of a dust suppression agent(s) in high traffic areas; and</li> <li>• implement and monitor dust in accordance with the <i>Dust Management Plant (IO-PL-EN-0001)</i>.</li> </ul>
	Contaminated stormwater	Direct discharge to land	<ul style="list-style-type: none"> <li>• existing conditions 9 and 10 under the licence apply;</li> <li>• use of sediment basins, bunding, and vegetated batters to control surface water sediment and reduce impact to water quality from the CCCBP;</li> <li>• installation of diversion structures, where required (bunds or channels) to separate and divert clean surface water flows around the CCCBP work areas and stockpiles;</li> <li>• concrete load bay and pad area must be designed with a wedge pit for the first flush and capable of holding approximately 13,500 L and a washout box capable of holding approximately 25,000 L;</li> <li>• locate the CCCBP away from major surface water bodies; and</li> <li>• collect all stormwater drainage, wash-down water, and spillages from within the CCCBP work areas to designated collection points and sedimentation traps for treatment prior to re-use or release to the surrounding environment in accordance with <i>Australian and New Zealand for Fresh and Marine Water Quality (ANZG 2018)</i> and <i>WQPN 68 – Mechanical Equipment Washdown (DoW 2013)</i> water quality limits.</li> </ul>
<b>Operation</b>			
<b>Category 44</b>			
Operation of the CCGIPP	Dust	Air / windborne pathway	<ul style="list-style-type: none"> <li>• use of water trucks;</li> <li>• application of a dust suppression agent(s) in high traffic areas; and</li> <li>• implement and monitor dust in accordance with the <i>Dust Management Plant (IO-PL-EN-0001)</i>.</li> </ul>

Sources / activities	Emissions	Potential pathways	Proposed controls
	Contaminated stormwater	Direct discharge to land	<ul style="list-style-type: none"> <li>maintain the integrity of hardstands, bunding and / or windrows to divert and segregate stormwater within and externally to the CCGIPP;</li> <li>stormwater sumps and drains constructed, must be maintained to be operational;</li> <li>contain and appropriately manage contaminated stormwater;</li> <li>minimise the disruption of natural surface water flow by avoiding excessive ponding against structure and bunds;</li> <li>protect natural drainage lines from operational impacts where possible so that water quality is minimally impacted; and</li> <li>keep clean and potentially contaminated stormwater separate.</li> </ul>
Use of GI water pond	Reject process water	Direct discharge to land from overtopping	<ul style="list-style-type: none"> <li>existing conditions 4 and 10 under the licence apply;</li> <li>pond must have a HDPE liner and be visually inspected for integrity;</li> <li>maintain and operate a minimum vertical freeboard of 200 mm; and</li> <li>visual inspection to check integrity, daily whilst operational and within 24 hours of a significant rainfall event when access permits. Fortnightly whilst not operational and within 24 hours of a significant rainfall event when access permits.</li> </ul>
		Infiltration from embankment failure, HDPE liner damage	
<b>Category 77</b>			
Operation of the CCCBP	Dust	Air / windborne pathway	<ul style="list-style-type: none"> <li>operate in accordance with the requirements outlined in the <i>Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998</i>; and</li> <li>implement and monitor dust in accordance with the <i>Dust Management Plan (IO-PL-EN-0001)</i>.</li> </ul>
	Contaminated stormwater	Direct discharge to land	<ul style="list-style-type: none"> <li>maintain sediment basins, bunding, and vegetated batters to control surface water sediment and water quality from the CCCBP;</li> <li>maintain diversion structures, where required (bunds or channels) to separate</li> </ul>

Sources / activities	Emissions	Potential pathways	Proposed controls
			<p>and divert clean surface water flows around the CCCBP work areas and stockpiles;</p> <ul style="list-style-type: none"> <li>maintain concrete load bay and pad area;</li> <li>surface water runoff will be managed in accordance with the <i>Surface Water Management Plan (100-PL-EN-1015)</i>, which provides for the management and monitoring of Christmas Creek;s water quality; and</li> <li>collect all stormwater drainage, wash-down water, and spillages from within the CCCBP work areas to designated collection points and sedimentation traps for treatment prior to re-use or release to the surrounding environment in accordance with <i>Australian and New Zealand for Fresh and Marine Water Quality (ANZG 2018)</i> and <i>WQPN 68 – Mechanical Equipment Washdown (DoW 2013)</i> water quality limits.</li> </ul>
CCCBP stockpiles	Dust	Air / windborne pathway	<ul style="list-style-type: none"> <li>operate sprinklers daily on stockpiles to manage dust, temperature, and moisture control, with moistures recorded daily.</li> </ul>
<b>Other</b>			
Fuel storage and refuelling of plant equipment and vehicles	Hydrocarbon spills and leaks	Direct discharge to land and infiltration through the soil to groundwater	<ul style="list-style-type: none"> <li>chemicals and hydrocarbons utilised for the CCCBP and CCGIPP must be managed in accordance with the <i>Chemical and Hydrocarbon Management Plan (100-PL-EN-0011)</i> to ensure that the storage, handling, transportation, and disposal of chemicals is managed to minimise environmental impact; and</li> <li>any chemical or hydrocarbon spills that arise from the CCCBP and CCGIPP must be managed in accordance with the measures identified in the <i>Environmental Spills Procedure (IO-PR-EN-003)</i>.</li> </ul>

### 3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020a), the Delegated Officer has excluded employees, visitors, and contractors of the licence holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 3 below provides a summary of potential environmental receptors that may be impacted because of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020b)). It should be noted that any potential sensitive human receptors have been screened out from the risk assessment due to the long distance from potentially being impacted by the prescribed activities.

**Table 3: Sensitive environmental receptors and distance from prescribed activity**

Environmental receptors	Distance from prescribed activity
<p><u>Priority Ecological Communities (PEC)</u></p> <ol style="list-style-type: none"> <li><i>Fortescue Marsh (Marsh Land System) P1</i></li> <li><i>Four plant assemblages of the Wona Land System (previously 'Cracking clays of the Chichester and Mungaroo Range') P1</i></li> </ol> <p>No threatened ecological communities in near the prescribes premises boundary.</p>	<ol style="list-style-type: none"> <li>Approximately 4 km south of the Christmas Creek Mine with a portion within the prescribed premises boundary.</li> <li>Approximately 1.45 km north of the prescribed premises boundary.</li> </ol> <p>Fortescue Marsh is also a nationally important wetland and the largest ephemeral wetland in the Pilbara region and is listed on the Directory of Important Wetlands of Australia as a wetland of national significance.</p>
<p><u>Threatened and/or priority flora</u></p> <ol style="list-style-type: none"> <li><i>Calotis squamigera P1</i></li> <li><i>Eremophila spongiorcarpa P4</i></li> </ol>	<ol style="list-style-type: none"> <li>Within the prescribed premises boundary.</li> <li>Within the prescribed premises boundary.</li> </ol> <p>The proposed CCCBP and CCGIPP are not within the vicinity of any conservation significant flora.</p>
<p>Native vegetation</p>	<p>The CCCBP and CCGIPP are predominately located within existing, disturbed areas. The potential impacts to vegetation and flora are considered low risk.</p> <p>In addition, both indirect and direct impacts to flora and native vegetation are regulated under MS 1033. Management measures outlined in the <i>Vegetation Health Monitoring and Management Plan (100-PL-EN-1020)</i> will be implemented to further mitigate against the potential impacts on significant flora and vegetation from the proposed activities.</p>
<p><u>Threatened and/or priority fauna</u></p> <ol style="list-style-type: none"> <li>Northern quoll (<i>Dasyurus hallucatus</i>) Endangered</li> <li>Night parrot (<i>Pezoporus occidentalis</i>) Endangered</li> <li>Greater bilby (<i>Macrotis lagotis</i>) Vulnerable</li> <li>Pilbara leaf-nosed bat (<i>Rhinonicteris aurantia (Pilbara form)</i>) Vulnerable</li> <li>Pilbara olive python (<i>Liasis olivaceus barroni</i>) Vulnerable</li> <li>Rainbow bee-eater (<i>Merops ornatus</i>)</li> </ol>	<p>Rainbow bee-eater and short-tailed mouse within the prescribed premises boundary.</p> <p>Threatened and priority fauna identified as potentially occurring within the prescribed premises have been screened out as the proposed amendment is not expected to alter the risks to fauna species outside that addressed within MS 1033.</p>

Environmental receptors	Distance from prescribed activity
fauna sighting Migratory 7. Short-tailed mouse ( <i>Leggadina lakedownensis</i> ) fauna sampling P4	
Surface water	<p>Numerous drainage lines occur throughout the prescribed premises boundary.</p> <p>A drainage line flows along the eastern side of the CCCBP and CCGIPP.</p> <p>Prescribed premises is located within the Pilbara Surface Water Area proclaimed under the RIWI Act.</p>
Groundwater	<p>Prescribed premises is located within the Pilbara Groundwater Area proclaimed under the RIWI Act.</p> <p>Groundwater abstracted for the use of the CBP will be managed in accordance with the RIWI Act and the associated groundwater licence GWL 167593(7).</p>
Aboriginal and other heritage sites	<p>Archaeological place mapped within the prescribed premises boundary; however, the area has also been ethnographically surveyed.</p> <p>Several heritages sites with artifacts and scatters are located near the CCGIPP and CCCBP, however, occurs on cleared and disturbed land and the areas have been ethnographically surveyed.</p>



## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020a) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the licence holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the licence holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the licence holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The revised Licence L8454/2010/2 that accompanies this amendment report authorises emissions associated with the operation of the Premises. The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015). It is important to note that, beyond the conditions of the Part V licence, general provisions of the EP Act apply (i.e. general offences relating to pollution or unreasonable emissions (section 49), environmental harm (sections 50A, 50B and 50C)).

Table 4. Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Licence holder's controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls				
<b>Construction</b>								
<b>Category 44</b>								
Construction of the CCGIPP including the GI water pond	Dust	Air / windborne pathway Potential impact to vegetation health	Nearby native vegetation	Refer to Section 3.1	C = Slight L = Possible <b>Low Risk</b>	Y	Conditions 9	N/A
	Contaminated stormwater	Direct discharge to land Potential impact to vegetation health and surface water quality to nearby drainage line from contaminated stormwater	Nearby native vegetation Surface water, nearby drainage line	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Conditions 9	N/A
<b>Category 77</b>								
Installation and construction of the CCCBP	Dust	Air / windborne pathway Potential impact to vegetation health	Nearby native vegetation	Refer to Section 3.1	C = Slight L = Possible <b>Low Risk</b>	Y	Conditions 9	N/A
	Contaminated stormwater	Direct discharge to land Potential impact to vegetation health and surface water quality to nearby drainage line from contaminated stormwater	Nearby native vegetation Surface water, nearby drainage line	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Conditions 9	N/A
<b>Operation</b>								
<b>Category 44</b>								
Operation of the CCCGIPP	Dust	Air / windborne pathway Potential impact to vegetation	Nearby native vegetation	Refer to Section 3.1	C = Slight L = Possible	Y	Condition 10	N/A

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Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Licence holder's controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls				
		health			<b>Low Risk</b>			
	Contaminated stormwater	Direct discharge to land Potential impact to vegetation health and surface water quality to nearby drainage line from contaminated stormwater	Nearby native vegetation Surface water, nearby drainage line	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 10	N/A
GI water pond	Reject process water	Direct discharge to land from overtopping Potential impact to vegetation health and surface water quality to nearby drainage line from contaminated stormwater	Nearby native vegetation Surface water, nearby drainage line	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Conditions 4 and 10	N/A
		Infiltration from embankment failure, HDPE liner damage Potential impact to vegetation health, groundwater, and surface water quality to nearby drainage line from contaminated stormwater	Nearby native vegetation Surface water, nearby drainage line Groundwater	Refer to Section 3.1	C = Minor L = Rare <b>Low Risk</b>	Y	Conditions 4 and 10	N/A
<b>Category 77</b>								
Operation of the CCCBP	Dust	Air / windborne pathway Potential impact to vegetation health and surface water quality for nearby drainage lines	Nearby native vegetation Surface water, nearby drainage line	Refer to Section 3.1	C = Slight L = Possible <b>Low Risk</b>	Y	Condition 10	N/A
	Contaminated stormwater	Direct discharge to land Potential impact to vegetation health and surface water quality to nearby drainage line from contaminated stormwater	Nearby native vegetation Surface water, nearby drainage line	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 10	N/A

Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Licence holder's controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls				
CCCBP stockpiles	Dust	Air / windborne pathway Potential impact to vegetation health and surface water quality for nearby drainage lines	Nearby native vegetation Surface water, nearby drainage line	Refer to Section 3.1	C = Slight L = Possible <b>Low Risk</b>	Y	Condition 10	N/A
Fuel storage and refuelling of plant equipment and vehicles	Hydrocarbon spills and leaks	Direct discharge to land and infiltration through the soil to groundwater. Potentially contaminating soil, surface water (nearby drainage line) and groundwater	Soil Groundwater Surface water, nearby drainage line	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	No conditions imposed	General provisions of the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> apply

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020a).

Note 2: Proposed licence holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

## 4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

**Table 5: Consultation**

Consultation method	Comments received	Department response
Application advertised on the department's website on 30 April 2024	No comments were received.	N/A
Licence holder was provided with draft amendment on 11 June 2024	Licence holder comments are provided in Appendix 1.	The department's response is provided in Appendix 1.

## 5. Conclusion

Based on the assessment in this amendment report, the Delegated Officer has determined that a revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

### 5.1 Summary of amendments

Table 6 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the revised Licence as part of the amendment process.

**Table 6: Summary of licence amendments**

Condition no.	Proposed amendments
-	Formatting and grammatical changes throughout as per the current licence template format.
Cover page	Inclusion of 'Date of Issue' for the licence as per the current licence template format. Inclusion of the new categories 44 and 77 to the 'Prescribed premises category description' and minor grammatical changes.
Licence history	Removal of references to works approval history. Licence history changes are retained. Inclusion of this proposed licence amendment.
Heading and introduction sentence.	Inclusion of 'Licence conditions' heading and the following sentence ' <i>The licence holder must ensure that the following conditions are complied with</i> ' as per the current licence template format.
1, Table 1	Inclusion of the new categories 44 and 77, as well as existing categories 54, 57, and 64 to Table 1.
3, Table 2	Ruby turkey's nest moved to the 'Storage vessel or compound' that are approved to contain 'saline or brackish water'. Inclusion of the Green Iron water pond to the table.
4, Table 3	Amendment to 'frequency of inspection' for tailings storage facility embankment freeboard inspection as requested in section 2.3 (minor amendments).



Condition no.	Proposed amendments
	Inclusion of the Green Iron water pond for visual integrity, daily whilst operational and fortnightly whilst not operational and within 24 hours of a significant rainfall event when access permits.
9, Table 6	Inclusion of design, installation, and construction requirements for the Green Iron Pilot Plant and Concrete Batching Plant.
11	New condition that requires the licence holder to manage dust and stormwater at the Green Iron Pilot Plant and the Concrete Batching Plant once operational.
15, Table 10	Inclusion of the following text to L5 " <i>And/or; Stored and used as process water in the operation of the Green Iron Pilot Plant.</i> "
Heading	Inclusion of 'Records and' to the "reporting" heading as per the current licence template format.
22, 30 and Definitions table	Amended ANZECC/ARMCANZ guideline references to the current Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018).
11 to 32	Renumbering of previous conditions 10 to 31.
Schedule 1 Maps	Inclusion of the sentence ' <i>the boundary of the prescribed premises is shown in the map below (Figure 1)</i> ' as per the current licence template format.
Figure 18	New figure for the locations of the proposed Green Iron Pilot Plant and Concrete Batching Plant

## References

1. ANZG 2018, Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at [www.waterquality.gov.au/anzguidelines](http://www.waterquality.gov.au/anzguidelines)
2. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
3. Department of Water (DoW) 2013, *Water Quality Protection Note 68 – Mechanical equipment wash down*, Perth, Western Australia.
4. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Risk Assessments*, Perth, Western Australia.
5. DWER 2020b, *Guideline: Environmental Siting*, Perth, Western Australia.

## Appendix 1: Summary of licence holder’s comments on risk assessment and draft conditions

Condition	Summary of licence holder’s comment	Department’s response						
3, Table 2	<p>The licence holder requests for operational flexibility to enable the storage of ‘saline or brackish water’ material at the Ruby Turkey’s Nest.</p> <p>The licence holder confirms that the existing Ruby Turkey Nest was constructed and lined with a HDPE liner, thereby meeting the requirements for the storage of ‘saline or brackish water’ material.</p> <p>Therefore, the licence holder requests for the inclusion of the Ruby Turkey’s Nest to the ‘saline or brackish water’ material storage vessel or compound and notes that this will have a minimal risk to the environment.</p>	<p>The department initially requested further information on the design requirements of the Ruby’s turkey nest, as the requirements for a storage vessel to contain ‘saline or brackish water’ was a HDPE liner and minimum vertical freeboard of 200 mm.</p> <p>The licence holder has provided this information and has no objection for the Ruby turkey’s nest to be a storage vessel for ‘saline or brackish water’ as the requirements are met,</p>						
9, Table 6	<p>Licence holder notes that the Flinders In-Pit TSF2 Complex Environmental Compliance Reports (ECR) were received by the department on the 17th of August and 27th of October 2023.</p> <p>Therefore, on the 21st of November 2023, the licence holder received a licence compliance report (compliance demonstrated) from the department (DWER Ref: 2010/003105-4) notifying the licence holder that the Flinders In-Pit TSF2 Complex was constructed in accordance with the design requirements of the Licence.</p> <p>Therefore, the licence holder requests for the minor amendment to remove the Flinders In-Pit TSF2 Complex from the design and construction requirements, mentioned in Condition 9, Table 6 of the licence.</p> <table border="1" data-bbox="353 1066 916 1337"> <thead> <tr> <th data-bbox="353 1066 629 1142">Infrastructure</th> <th data-bbox="629 1066 916 1142">Requirements (Design and construction)</th> </tr> </thead> <tbody> <tr> <td data-bbox="353 1142 629 1190"><del>Flinders In-Pit TSF2 Complex</del></td> <td data-bbox="629 1142 916 1190"></td> </tr> <tr> <td data-bbox="353 1190 629 1337"><del>In-pit tailings storage facility</del></td> <td data-bbox="629 1190 916 1337"><del>Stage 2 to provide additional tailings storage of approximately 17 Mm<sup>3</sup> to the maximum tailings level of 437.0 mRL</del></td> </tr> </tbody> </table>	Infrastructure	Requirements (Design and construction)	<del>Flinders In-Pit TSF2 Complex</del>		<del>In-pit tailings storage facility</del>	<del>Stage 2 to provide additional tailings storage of approximately 17 Mm<sup>3</sup> to the maximum tailings level of 437.0 mRL</del>	<p>The department has removed the Flinders In-Pit TSF2 Complex as an ECR was submitted and deemed compliant.</p>
Infrastructure	Requirements (Design and construction)							
<del>Flinders In-Pit TSF2 Complex</del>								
<del>In-pit tailings storage facility</del>	<del>Stage 2 to provide additional tailings storage of approximately 17 Mm<sup>3</sup> to the maximum tailings level of 437.0 mRL</del>							